Pensauken gravels and sands over the drowned lowlands; and this was followed by an elevation in consequence of which the existing narrow valleys have been eroded in the 'pre-Pensauken peneplain.' The thoroughness of this volume only serves to emphasize the need of an elementary text, or series of brief explanatory tracts, that might go to the public schools along with the relief map of the State, already noticed in SCIENCE.

PHYSIOGRAPHIC TYPES.

THE first folio of the Topographic Atlas of the United States, published by the U. S. Geological Survey, is entitled Physiographic Types. It includes the maps of well-chosen typical regions, with explanatory text by H. Gannett. The Red River plain represents a young surface; the West Virginia plateau, a maturely dissected surface; the uplands of Kansas, an old surface, reduced nearly to a plain of denudation; Shasta is taken as a young volcano; Wisconsin affords examples of moraines and drumlins; the lower Mississippi gives the type of part of a flood-plain; Maine illustrates a drowned coast; and New Jersey, a sand-reefed coast. The policy indicated by the lucidity of the text that accompanies the geological folios is here well maintained. Great educational advantage must follow from it, not only in the better understanding of the Survey publications by their mature readers to-day, but even more in leading the younger generation towards a fuller comprehension of this large and growing store of material. The aid thus indirectly given by a great national organization towards the improvement of the position of geography and geology in the schools must everywhere be heartily welcomed.

The authority that this series of folios will exercise in matters of explanation and terminology makes it desirable that the greatest care should be exercised in their preparation. There are some points in the first number that do not reach the desirable standard. For example, 'relief' is first defined in the sentence: "The land features, commonly called the relief, include all the variations of the surface * * *" It is correctly defined afterwards: "The relief, *i. e.*, the difference in height between the stream beds and the divides." More direct evidence for the denudation of the piedmont region of Virginia is found in the deep-seated origin of the rock structures now at the surface, and in the discordance between structural arrangement and surface form, than in the great age of the rocks. The 'snag' explanation of drumlins is given a greater prominence than it deserves. The account of the Maine coast is erroneous in several respects. Glacial erosion is overestimated, and there are many exceptions to the statement that the thin soil of southern Maine is chiefly derived from postglacial disintegration; the soil is often deep, consisting of glacial drift, glacial gravels and sands, and marine clays now revealed in an irregular coastal plain which the farmers there know very well. "Ocean currents also bear sand along precisely as rivers do, depositing it where their force is checked," is a generalization that may mislead many an uninformed reader. It is unfortunate that a term so well understood as 'ridge' should be used to name the almost invisible swell of a river flood-plain, particularly in the publications of a Survey that is elsewhere so careful not to exaggerate the vertical scale of its sections.

W. M. DAVIS.

CURRENT NOTES ON METEOROLOGY.

CYCLONES OF THE PHILIPPINE ISLANDS.

FROM the Observatory of Manila, which has already given meteorology many valuable publications, comes a report upon the cyclones of the Philippines, written, as Father Algué, its author, tells us in the in-

troduction, amidst rumors of wars and warlike preparations *Baguios ó Ciclones Filipinos. Estudio Teórico-práctico.* This monograph of over 300 pages is the first complete publication upon the cyclones of the Philippines. It is of especial importance just at the present time, when the Philippines, long of peculiar interest to meteorologists, are becoming of interest to the general public of this country as well. The origin, structure, movement, paths, meteorological characteristics, and prognostics, are fully considered, and detailed accounts of certain special cyclones are given. Fifteen figures accompany the report, including a chart showing the average tracks of cyclones in the East, based on the international observations from 1878 to 1888, and on the Manila observations from 1865 to 1896.

PHYSIOLOGICAL EFFECTS OF HIGH ALTITUDES.

A SHORT paper by Douglass on the *Effects of High Mountain Climbing* (Appalachia, Vol. VIII., No. 4, 1898) summarizes the more important symptoms of mountain sickness as noted by previous climbers, and adds a few notes from the author's own experiences. The author is of the opinion that in trips which require two days to reach the summit of the mountain, as, *e. g.*, the ascent of Popocatepetl and Orizaba, the night should be passed at an altitude where mountain sickness is not likely to prevent sleep, that is, at about 13,000 ft. The increased discomfort from mountain sickness during the night, and the fact that all the symptoms become exaggerated with increasing elevation above sea level, make it advisable to sleep at as low an altitude as possible.

FOG ON THE NORTH ATLANTIC OCEAN.

ON the *Pilot Chart of the North Atlantic Ocean* for May, 1898, a new scheme for indicating the probable prevalence of fog is adopted for the first time. Instead of showing the regions of fog in one shade of coloring, as has been done hitherto, the present scheme gives a much more detailed forecast. Seven different styles of blue shading are now used, indicating seven degrees of probable duration of fog, in percentages. These percentages are as follows: 10%–20%, 20%–30%, 30%–40%, 40%–50%, 50%–60%, 60%–70%, and over 70%. That this more detailed forecast of fog duration will be very acceptable to mariners there can be no doubt.

CLOUD STUDY AND PHOTOGRAPHY.

AN attractive little book of eighty pages, entitled 'La Photographie et l'étude des nuages,' by Boyer, presents, in four chapters, an account of the classification of clouds according to the International System; of the application of photography to cloud study, and of the calculation of cloud heights and velocities from the photographs. There are several good illustrations of cloud forms, reproduced from the cloud sheet of our Hydrographic Office, from the 'International Cloud Atlas,' and from photographs taken at the Observatory at Trappes.

R. DEC. WARD.

HARVARD UNIVERSITY.

CURRENT NOTES ON ANTHROPOLOGY.

ETHNOGRAPHY OF WESTERN ASIA.

THE races of western Asia were the subject of an important communication by M. Chantre to the French Association for the Advancement of Science at its last meeting. His conclusions were based upon about 25,000 measurements, including those of 100 women of high cast taken by Madame Chantre. They were altogether derived from 16 different stocks. They differed widely, showing that the population is from very varied sources. In reference to the cephalic index, for example, we have, on the one hand, the Kurds with an average index of 72, and on the other the Baktiars,